Construction Advisory

CA 2008-05
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Index: Concrete

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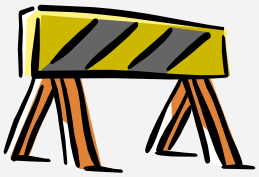

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Equipment for Concrete Mixtures

This construction advisory serves as a reminder of the equipment requirements for projects involving concrete mixtures and latex modified concrete mixtures, in accordance with Sections 601, 701, and 703 of the 2003 Standard Specifications for Construction. See Subsection 601.03.A regarding requirements to supply Portland cement concrete from certified portable and stationary concrete batch plant facilities meeting the requirements of the National Ready Mixed Concrete Association's (NRMCA) certification program for automatic control and automatic systems. See Subsection 601.03.C regarding waiver requirements of certification and automatic controls. When a fully automated NRMCA certified facility is not within 25 miles of the project limits, the engineer may waive NRMCA certification and automation requirements, at which point Subsection 601.03.B applies. Non certified manually operated batch plants are required to provide weighing and batching equipment to weigh, in a single weighing, the quantity of each material required to produce properly proportioned concrete.

For concrete mixtures listed on Tables 601-2 and 701-1, mixing each batch of truck mixed concrete requires more than 70 revolutions at mixing speed (see Subsections 601.03.E.2 and 701.03.B.2). The requirement of 70 revolutions is to ensure that all mixture ingredients are well dispersed thoroughly and uniformly throughout the concrete mixture. It is very important that the air entraining admixture is thoroughly mixed into the concrete to develop the necessary air void system to protect the concrete from freeze-thaw deterioration. Proper and thorough mixing of the concrete will also ensure that the water reducing and set retarding admixtures effectively perform their intended purposes uniformly from the beginning to completion of discharge.

For latex modified concrete mixtures listed on Tables 703-1 and 703-2, see Subsection 703.03.A for requirements for volumetric batching and continuous mixing equipment. Demonstrate that the equipment is properly calibrated for yield and proportioning by the certification or by field tests, and obtain the engineer's approval before starting production. Per Subsection 703.03.B, proportion and mix latex modified mixtures in self contained mobile continuous type mixers according to ASTM C685. However, the engineer will determine the requirements for certification.